



Mathematics long term plan – Year 5

Key Targets are highlighted in red – these targets should be delivered first within each unit of work and children should not progress beyond these targets within each unit of work until they are secure. If children do not secure key targets within a unit of work, they should progress onto the next unit of work with the rest of the class but these key targets should be revisited during consolidation weeks and/or during the next academic year (e.g. before progressing onto key targets for multiplication in Year 5, unsecured key targets for multiplication from the Year 4 curriculum should be secured first when a child progresses into Year 5).

Order of delivery – targets have been placed in a suggested order of delivery; however, class teachers should use their professional judgement and discuss the order of delivery and/or the number of lessons that should be dedicated to each learning objective with the maths coordinator/SLT members, if needed.

Teaching some objectives through regular practice – some targets/learning objectives may not need their own lesson for delivery (e.g. using estimation to check answer to calculations). Teachers should use their professional judgement when deciding how many lessons should be dedicated to each learning objective. Teachers may decide that using estimation to check answers to calculations is something that will be incorporated into most of their teaching inputs throughout the year and that additional lessons could be used for the delivery of more essential targets. Class teachers to discuss which targets may not need their own lesson for delivery with maths coordinator/SLT members; however, all key targets must have their own dedicated lessons for delivery.

Children working below age-related expectations – class teachers should consolidate and secure key targets from a previous year group before progressing children working below age-related expectations onto the learning objectives attached to their current year group (e.g. before progressing onto key targets for multiplication in Year 5, unsecured key targets for multiplication from the Year 4 curriculum should be secured first when a child progresses into Year 5). If children have secured key targets from the previous year group during the unit of work, they should progress onto key targets attached to their current year group. If a unit of work is being delivered with no key targets (e.g. statistics), class teachers should review gaps in learning from previous year groups and use their professional judgement when deciding which targets that child should consolidate and secure during that unit of work (e.g. more essential gaps in learning involving statistics from previous year groups should be consolidated and secured first; less-essential targets from previous year groups may be left undelivered if it is not appropriate for that child to progress onto that target).

Re-capping and consolidating targets from previous year groups – as part of ongoing and good practice across all year groups, all teachers should re-cap learning objectives from the previous year group as part of their success criteria in one or more of their lessons (e.g. Year 6 lessons should re-cap multiplying 4-digit numbers by a 1-digit number before progressing children onto multiplying numbers with up to 4 digits by 2-digit numbers.) A one-size-fits-all approach is nearly impossible to achieve but gaps in learning for a vast majority of pupils working at age-related expectations should be addressed and secured across all year groups if every year group does this well.

Adapting weeks to suit each academic year – the number of weeks in each academic year may slightly change (e.g. autumn term may have 15 weeks instead of 14 weeks in some academic years). Class teachers should adapt the overviews accordingly depending on the length of each term and discuss and agree this with the maths coordinator or SLT members if needed.

Retention of learning – Learning has been organised into units of work (e.g. 2 weeks may be dedicated to addition at the start of the year and then addition may not be planned in to be revisited for the remainder of the year). Class teachers should ensure that calculations of the day, discussion of past paper questions every day, and starter activities throughout the year recaps prior learning throughout the year to ensure retention of previous learning.

The aim of the curriculum design is to ensure that every child, or nearly every child, progresses into the next year group with all of the key targets attached to their year group secure. This will ensure that children can access maths lessons being delivered in the following academic year.



Year 5: Autumn Term

<u>Weeks 1 & 2 and 3</u> Number – place value	<u>Weeks 4, 5 & 6</u> Number – addition, subtraction,	<u>Weeks 7, 8, 9, 10</u> Number - multiplication and division	<u>Week 11 & 12</u> Statistics	<u>Weeks 13 & 14</u> Consolidation weeks
<p>-Read, write, order and compare numbers to at least 1000000 and determine the value of each digit.</p> <p>-Count forwards or backwards in steps of powers of 10 for any given number up to 1000000.</p> <p>-Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero.</p> <p>-Round any number up to 1000000 to the nearest 10, 100, 1000, 10000 and 100000</p> <p>-Solve number problems and practical problems that involve all of the above.</p> <p>-Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.</p>	<p>- Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</p> <p>-Solve addition and subtraction multi-step problems in contexts deciding which operations and methods to use and why.</p> <p>-Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.</p> <p>-Add and subtract numbers mentally with increasingly large numbers.</p>	<p>-Multiply and divide whole numbers by 10, 100 and 1000.</p> <p>-Multiply numbers up to 4 digits by a one or two-digit number using a formal written method, including long multiplication for 2 digit numbers.</p> <p>-Divide numbers up to 4 digits by a one digit number using the formal written method of short division and interpret remainders appropriately for the context.</p> <p>-Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign.</p> <p>-Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</p> <p>-Recognise and use square numbers and cube numbers and the notation for squared (2) and cubed (3).</p> <p>-Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.</p> <p>-Solve problems involving multiplication and division, including scaling by simple rates</p> <p>-Multiply and divide numbers mentally drawing upon known facts.</p>	<p>-Complete, read and interpret information in tables including timetables.</p> <p>-Solve comparison, sum and difference problems using information presented in a line graph.</p>	<p>Based on knowledge of their pupils and awareness of misconceptions, class teachers to decide which targets should be re-capped and consolidated during these weeks.</p> <p>Key Targets should be prioritised during consolidation weeks.</p> <p>Assessment week will also take place during week 13.</p>



Year 5: Spring Term

<u>Weeks 1, 2, 3, 4 & 5</u> Fractions	<u>Weeks 6, 7 & 8</u> Decimals	<u>Weeks 9, 10 & 11</u> Percentages	<u>Week 12</u> Consolidation week
<ul style="list-style-type: none">-Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.-Compare and order fractions whose denominators are multiples of the same number.-Add and subtract fractions with the same denominator and denominators that are multiples of the same number.-Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.-Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements >1 as a mixed number (for example $2/5 + 4/5 = 6/5 = 1 \text{ and } 1/5$)-Read and write decimal numbers as fractions (for example $0.71 = 71/100$)-Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	<ul style="list-style-type: none">-Read, write, order and compare numbers with up to three decimal places.-Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.-Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.-Round decimals with two decimal places to the nearest whole number and to one decimal place.-Solve problems involving number up to three decimal places.-Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	<ul style="list-style-type: none">-Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred'.-Write percentages as a fraction with denominator 100, and as a decimal (for example, $32\% = 32/100 = 0.32$, $5\% = 5/100=0.05$).-Calculate percentages of amounts (e.g. 30% of 480)-Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$ and $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25. <p>Assessment week will also take place during week 11.</p>	<p>Based on knowledge of their pupils and awareness of misconceptions, class teachers to decide which targets should be re-capped and consolidated during these weeks.</p> <p>Key Targets should be prioritised during consolidation weeks.</p>



Year 5: Summer Term

<u>Weeks 1 & 2</u> Geometry – angles	<u>Weeks 3 & 4</u> Geometry - properties of shape	<u>Week 5</u> Geometry -position and direction	<u>Week 6 & 7</u> Measurement	<u>Week 8</u> Prime numbers	<u>Weeks 9 & 10</u> Perimeter and area	<u>Week 11</u> Volume	<u>Weeks 12 & 13</u> Consolidation week
<ul style="list-style-type: none"> -Know angles are measured in degrees -Estimate and compare acute, obtuse and reflex angles. -Draw given angles, and measure them in degrees ($^{\circ}$) -Identify angles at a point and one whole turn (total 360°), angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°), other multiples of 90°. 	<ul style="list-style-type: none"> -Identify 3D shapes, including cubes and other cuboids, from 2D representations. -Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. -Use the properties of rectangles to deduce related facts and find missing lengths and angles. 	<ul style="list-style-type: none"> -Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed. 	<ul style="list-style-type: none"> -Convert between different units of metric measure (for example, km and m; cm and m; cm and mm; g and kg; l and ml; seconds and minutes, minutes and hours, hours and days) -Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. -Solve problems involving converting between units of time. -Use all four operations to solve problems involving measure (length, capacity, mass, time) 	<ul style="list-style-type: none"> -Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. -Establish whether a number up to 100 is prime and recall prime numbers up to 19 	<ul style="list-style-type: none"> -Measure and calculate the perimeter of composite rectilinear shapes in cm and m. -Estimate, calculate and compare the area of rectangles (including squares), using standard units (cm^2, m^2) and estimate the area of irregular shapes 	<ul style="list-style-type: none"> Estimate volume, using 1cm³ blocks to build cuboids (including cubes) Estimate capacity, using measuring vessels and water -Use all four operations to solve problems involving measure (volume) 	<p>Based on knowledge of their pupils and awareness of misconceptions, class teachers to decide which targets should be re-capped and consolidated during these weeks.</p> <p>Key Targets should be prioritised during consolidation weeks.</p> <p>Assessment week will also take place during week 12.</p>